APPENDIX C

AREAS OF POTENTIAL ECOLOGICAL CONCERN

Table of Contents

Page

List of Figures

APPENDIX C
AREAS OF POTENTIAL ECOLOGICAL CONCERN

C.1.0 Introduction

Distinct assessment strategies may be required for different ecological scenarios, especially given the potential for a large difference in ecological characteristics and spatial scales within FTMC. The following sections describe the delineation of wide-scale ecologically distinct habitats called areas of potential ecological concern (APEC) within FTMC.

C.2.0 Justification and Rationale

The objective for defining APEC within Main Post, Pelham Range, and Choccolocco Corridor is to provide an ecologically relevant assessment unit for which a baseline ERA (BERA) can be performed. Chemical stressors associated with environmental media within a given APEC are assumed to potentially effect only ecological receptors with a home-range that is bounded within the APEC. While receptor populations could obviously overlap into adjacent APEC, hypothetical individuals of wide home-range receptors will be assumed not to overlap into adjacent APEC.

In order to create subregions within FTMC with consistent (i.e., related) exposure pathways between chemical stressors and receptors, the following three primary criteria were used to define APEC:

- Watershed areas
- Landscape ecology characteristics (e.g., vegetation type and special interest natural areas)
- Land-use objectives.

These operational criteria were applied to Main Post, Pelham Range, and Choccolocco Corridor. The following sections demonstrate how these criteria were applied, and how APEC within each of the three regions of FTMC were defined.

C.3.0 Delineation Criteria

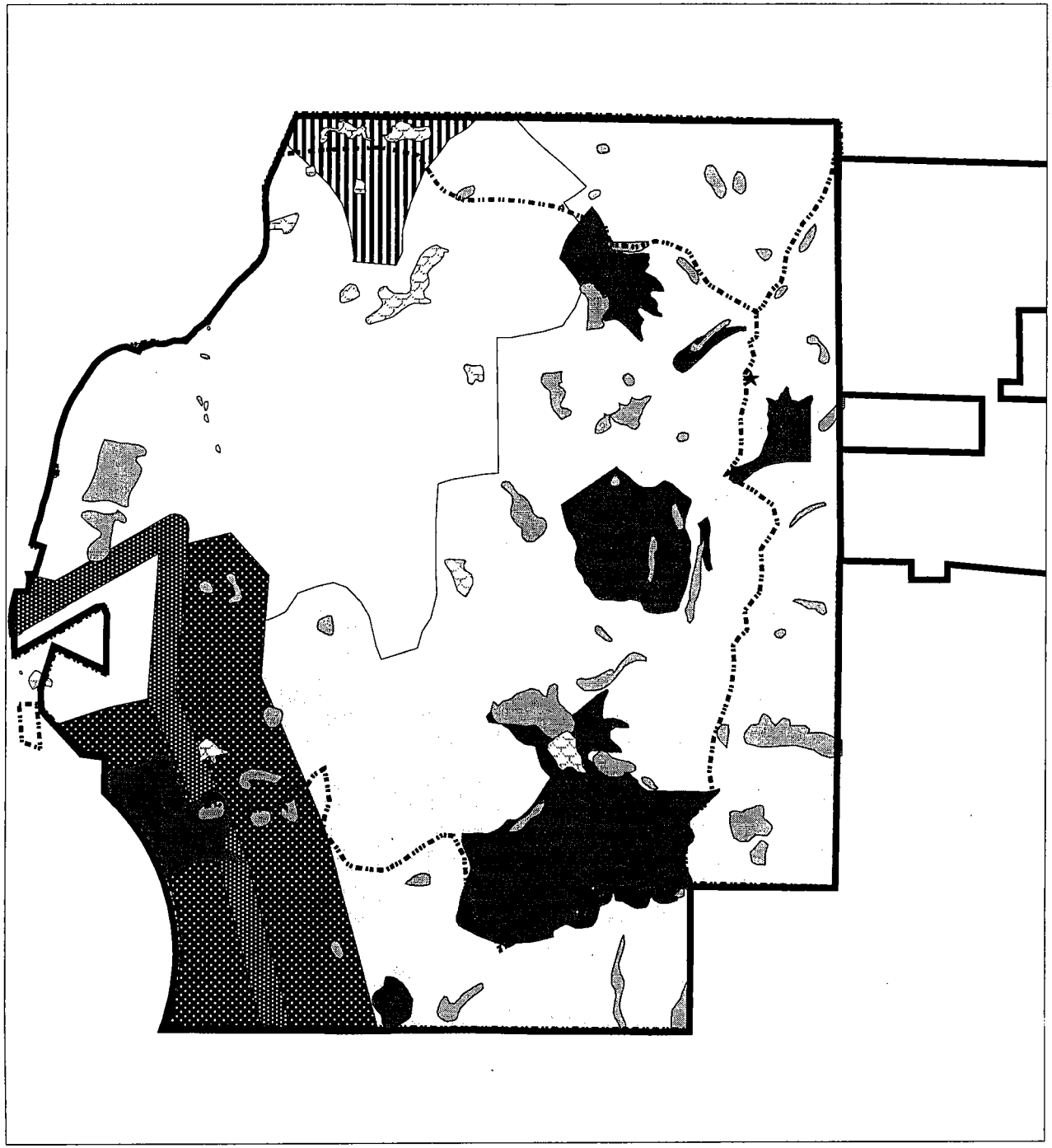
The first criterion, watershed area, was selected to define ecologically distinct aquatic features within the entire FTMC site. A watershed is operationally defined here as a region containing interrelated hydrology, but not necessarily interrelated geohydrology (groundwater features). Conversely, a given watershed basin is ecologically distinct from adjoining watersheds in that surface water resources are not directly exchanged, but rather remain within the given watershed. This has direct implication on the transport of chemical stressors associated with aquatic media such as surface water (dissolved chemicals), surface runoff (soil-associated chemicals), and total suspended solids (soil- and sediment-associated chemicals). By association, these contaminants will tend to remain within the given watershed and therefore (potentially) only affect receptors within the watershed.

The second criterion, landscape ecology characteristics, is operationally defined here as the terrestrial equivalent of the watershed basin. By analogy, specific landscape features (i.e., SINAs, topography, dominant vegetation type, wetlands, and pine forest areas) will tend to create similar or consistent exposure pathways between chemical stressors and ecological receptors associated within the same landscape unit.

The third criterion, area use objectives, is operationally defined here as the anthropogenic equivalents of both the watershed basin and the landscape ecology unit. In this case, the discriminating characteristic of the area is man-made structures or environments, or socio-political designations of land use for specific areas. Typically, this is a simpler distinction to make; an area is either being planned for development or specific use, (e.g., residential use, industrial use, road or highway construction, wildlife refuge, etc.), or it is not. This criterion is critical for identifying potential exposure by impacting the presence or absence of chemical stressors, ecological receptors, or potential pathways between the two.

C.4.0 Delineation of Areas of Potential Ecological Concern

The APEC delineation criteria were applied separately to Main Post, Pelham Range, and Choccolocco Corridor in an iterative manner. A site map of the Main Post was obtained, and outlines of relevant watersheds were drawn (Figure C-1). A total of seven watershed segments were identified for Main Post: one draining north into Douthard Creek; one draining into Cave Creek in the north-central region; a large watershed basin draining much of the central region of



Fort McClellan Main Post

Delineation of Areas of Potential Ecological Concern (APEC)

Watershed Boundaries
Wetlands
Montane Longleaf Pine
SINA Areas

Future Landuse Area
Cantonment Area
Commercial Development Reserve
Eastern Bypass Corridor
FMDC Proposed Wildlife Refuge
McClellan Industrial Park (N)

Figure C-1

Watersheds, Landscape Features, and Special Interest Natural Areas (SINA) within Main Post

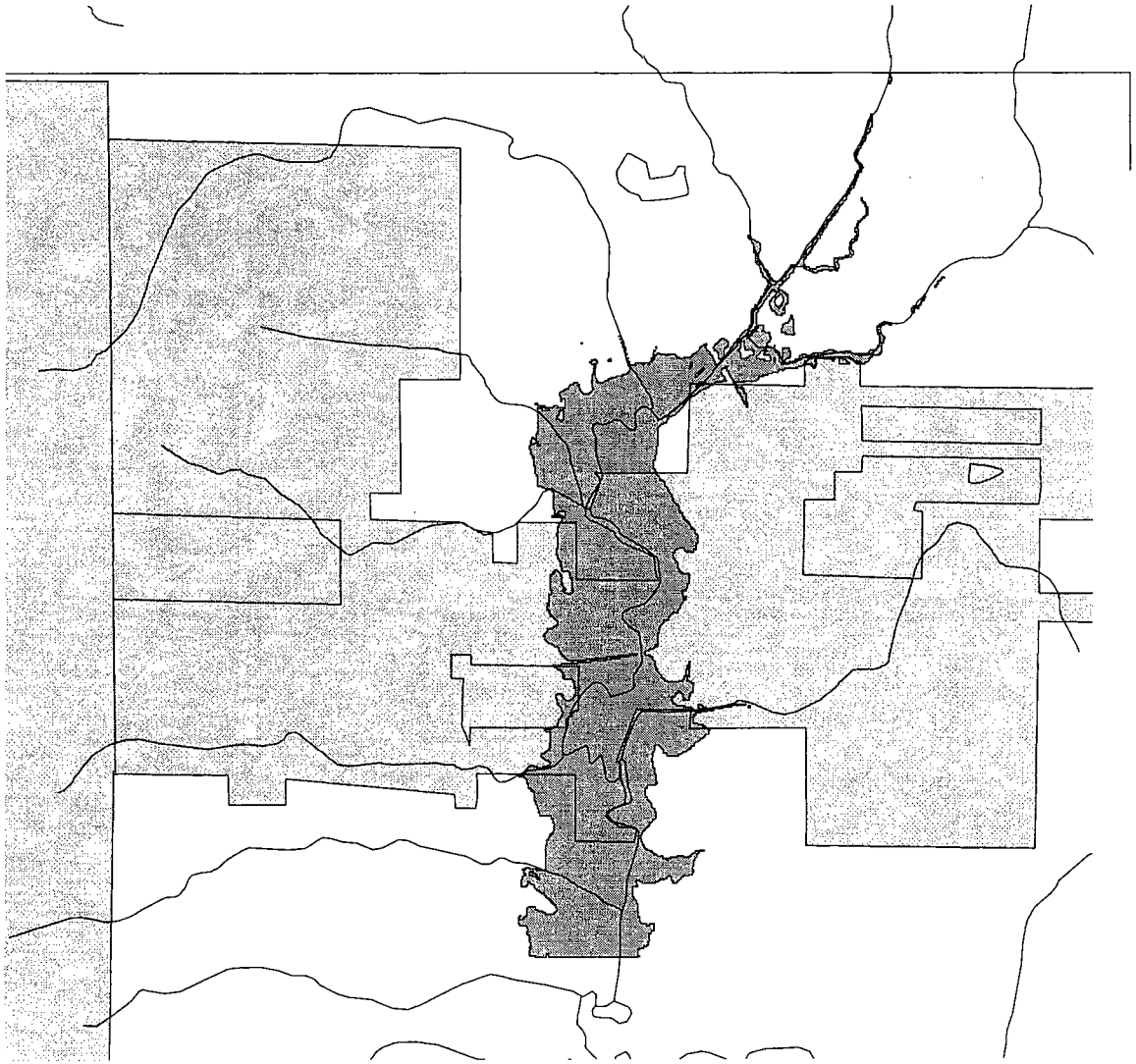
IT CORPORATION

Main Post in westerly direction into Cane Creek; and four smaller watershed segments intersecting the southwestern, southern, and eastern boundaries of Main Post. Although at a regional scale most of these watershed segments are part of the Cane Creek watershed draining into the Coosa River west of FTMC, each segment was treated as a unique hydrologic entity for purposes of assessment of ecological conditions within the boundaries of FTMC.

The second APEC-delineation step for Main Post involved adding major landscape ecology features to the watershed-delineated map (Figure C-1). These include general forest areas, mountain longleaf pine forest, the Cane Creek corridor, numerous SINAs, and several wetland/ marsh features existing throughout the Installation. To this composite map, Installation-related development features such as proposed land-use designations, roads (existing and proposed), training areas, and civilian population centers were added (Figure C-1).

Choccolocco Corridor was evaluated by the same three criteria as was Main Post. In this case, however, the watershed and land use criteria were not as significant to the delineation results. The Choccolocco Corridor region is State of Alabama property leased to the U.S. Army Corps of Engineers. The one major feature within the Choccolocco Corridor region is the Choccolocco watershed defined by the Choccolocco Creek that flows through the center of the CC region in a north to south direction (Figure C-2). The presence of the threatened Blue shiner has been associated with this stretch of the Choccolocco Creek. Landscape features can be divided into a homogenous, mountainous deciduous-pine forest to the west, and a rolling hill type landscape to the east. Current land use includes minimal industrial development, but substantial residential development. Thus, the Choccolocco Corridor will be dissected into three distinct APEC: one predominantly forest area on the western side of the Choccolocco Creek floodplain area, the floodplain area itself, and a rolling-hill region to the west.

The above process also was performed for Pelham Range. As with the Choccolocco Corridor, the landscape within this region of FTMC is significantly more homogenous than that in Main Post. Only two watersheds appear to transect Pelham Range (Figure C-3). The majority of the Range is drained by the Cane Creek watershed, ultimately discharging into Cane Creek which runs a tortuous path through the center of Pelham Range in an east-to-west direction. Cane Creek incorporates Cave Creek at some point to the east between Main Post and Pelham Range. Three major tributaries feed Cane Creek from the south. There is one small section in the southeastern region of Pelham Range that is drained by a separate watershed offsite in a southerly direction. The landscape ecology within Pelham Range is relatively homogenous,



Fort McClellan
Choccolocco Corridor

Delineation Of Areas of Potential Ecological Concern (APEC)

Choccolocco Creek Floodplane

Figure C-2

Watersheds, Landscape Features, and Special Interest Natural Areas (SINA) within Choccolocco Cooridor

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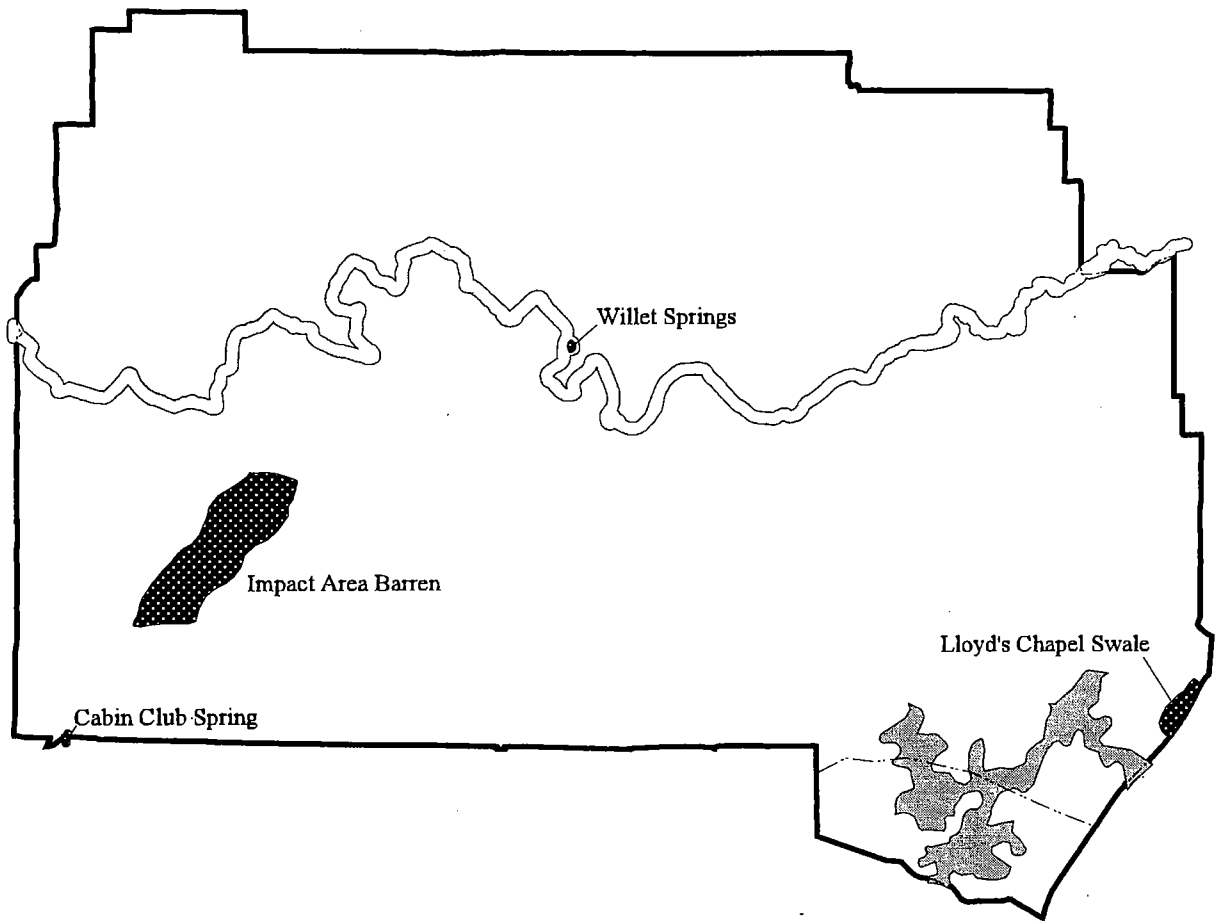
Fort McClellan
Pelham Range

Special Interest Natural Areas (SINA)



- Watershed Boundaries
- SINA Areas
- Cane Creek Corridor
- Montane Longleaf Pine

Figure C-3

Watersheds, Landscape Features, and Special Interest Natural Areas (SINA) within Pelham Range

IT CORPORATION

consisting almost entirely of a mixed deciduous-pine forest. The degree of development on Pelham Range is significantly less than in Main Post. There are some significant SINAs, including wetland/ marsh areas and threatened and endangered habitat (Figure C-3). Land-use features consist predominantly of small, sparse military installations, training areas, and artillery ranges. This land-use pattern apparently is expected to remain intact in the near future. Thus Pelham Range will be divided into eight distinct habitat areas. A potential distinct habitat is the Cane Creek corridor which runs in a east-west direction through the entire central region of Pelham Range. The narrow corridor area delineated by the Cane Creek floodplain is not conducive for delineation as a stand-alone APEC. It will be assessed individually in the Watershed Assessment planned for FTMC.

C.5.0 Summary of Delineation Process

The APEC delineation maps for Main Post and Choccolocco Corridor, and for Pelham Range, are shown in Figures C-4 and C-5, respectively. Main Post was divided into 13 distinct APEC, Choccolocco Corridor was divided into 3 APEC, and Pelham Range was divided into 8 APEC. Each APEC is described below within the context of relevant environmental characteristics (watershed, landscape ecology, land-use, receptors, etc.).

C.5.1 Main Post Areas of Potential Ecological Concern

Main Post APEC Number 1. The area designated as APEC MP1 (MP1) is located in the northwest corner of Main Post. It is bordered on the north and west by the Main Post boundary fence, and on the south by Reilly Airfield Road, which runs in an east-west direction immediately north of the former air field. The eastern boundary of MP1 is a paved road. An important land-use criterion for MP1 is that its areal boundaries are within an area designated to be an industrial development area (EDAW, Inc., [EDAW] *Fort McClellan Comprehensive Reuse Plan - Implementation Strategy*, November 1997).

The primary ecological feature within MP1 is Reilly Lake, a large lake formed by impounded flow from Douthard Creek and adjacent seeps. Also within MP1 is a large, productive wetland/marsh area to the west of Reilly Lake and to the north of a large former landfill area. Creek and stream flow within MP1 is generally toward the northwest, off Main Post. This indicates these water features are part of a watershed not directly associated with Main Post. The

terrestrial landscape habitat associated with MP1 is a mixed coniferous-deciduous forest with deciduous understory and areas of open grassland surrounded by forest.

Main Post APEC Number 2. The area designated as APEC MP2 (MP2) is located in the north-central portion of Main Post. It is bordered on the north by the Main Post boundary fence, on the west and on the east by paved roads. The southern boundary of MP2 consists of the topographical watershed boundary of the Cave Creek watershed (to the south) and the Douthard Creek/Reilly Lake watershed (to the north). Watershed is the only distinguishing factor between MP2 and APEC MP6 to the south (discussed later). The watershed associated with MP2 is the same as that associated with MP2, namely the Douthard Creek/Reilly Lake watershed. The land-use factor for MP2 is different from MP1; MP2 is not designated as an industrial use area (EDAW, 1997).

The ecological features associated with MP2 are not as varied as those associated with MP1. The aquatic habitat is limited to a few small second-order creeks draining to the north (off Main Post) into Douthard Creek. One small creek shown on the map to be within MP2 was found to be dry during the second reconnaissance visit of 27-30 July 1998. Terrestrial habitat associated with this APEC is similar to MP1, a mixed coniferous-deciduous forest with scattered clearings of grassland or brush surrounded by forest. The eastern portion of the APEC is characterized by higher elevations approaching the Choccolocco Mountains in APEC MP3 and APEC MP5 (discussed later). As the elevation increases, the vegetation becomes increasingly dominated by pine, including some patches of mountain longleaf pine.

Main Post APEC Number 3. APEC MP3 (MP3) is located in the northeastern corner of Main Post. It is bordered to the north by the Main Post boundary fence, on the west by MP2, to the east by APEC MP9 (discussed later). To the southeast, MP3 is bounded by APEC MP5 (discussed later) and by the topographical watershed boundary between the Cave Creek watershed (to the south) and the Douthard Creek/Reilly Lake watershed (to the north). The landscape feature distinguishing MP3 from MP2 is MP3's mountainous topography and dominant mixed coniferous-deciduous forest. This area is proposed to be maintained as part of a wildlife refuge (EDAW, 1997).

Ecological features within MP3 are almost entirely terrestrial. At these upper elevation, the pine forest predominates. Aquatic habitat is almost non-existent, consisting of drainage ditches associated with mountain roads and occasional seeps. The eastern boundary of this APEC is

delineated by the main road traversing the summit of the mountain range within Main Post. Thus, the topography within MP3 is generally sloped down to the west, with drainage flowing east to west.

Main Post APEC Number 4. The APEC MP4 (MP4) area is located within northwest Main Post. It is bounded on the north by MP1. On all other sides, it is bounded by the boundaries of the proposed industrial development area (EDAW, 1997), roughly delineated by streets and roads. The area of MP4, however is within the Cave Creek watershed, and is therefore separate from MP1.

The ecological habitat within MP4 is a mixture of some aquatic and mostly terrestrial. The primary features within MP4 two large landfills (Former Landfill No. 3 and Former Sanitary Landfill No. 4). There are several other parcels within MP4. The aquatic habitat within MP4 consists of small creeks draining Landfill No. 4 to Cave Creek to the southwest. Terrestrial habitat is primarily short trees and grass/shrub vegetation. Some areas within the APEC consist of developed land, buildings, pavement, and maintained lawn.

Main Post APEC Number 5. The area designated as APEC MP5 (MP5) is located in the north-central region of Main Post, immediately south of MP3. It is bounded on the south by APEC MP8 and on the west by APEC MP6 (both discussed later). The southern and northern boundaries of this APEC are oriented in a southwest to northeast, and a northwest to southeast direction, respectively, and meet at a point associated with APECs MP3 to the north, MP9 to the east, and MP8 to the south. This point is roughly coincident with the summit of the Choccolocco Mountains in this area. Thus, MP5 is situated entirely within the Cave Creek watershed which drains in an east to west direction.

The habitat associated with MP5 is predominantly terrestrial forest landscape. Almost the entire APEC is within the forest area recommended to become part of a wildlife refuge (EDAW, 1997). Also associated with this APEC is the Cave Creek Seep SINA, an area characterized by seeps which form the headwaters for Cave Creek and some of its tributaries. Truly aquatic habitat is limited at most to puddled water and drainage channels that are filled only during storm events.

Main Post APEC Number 6. The area designated as APEC MP6 (MP6) is located along the northwest and north central corridor of Main Post. Most of the area within MP6 comprises the northern portion of what is now called the Cantonment Area. MP6 is bordered on the north by

MP4, MP1, and MP2, on the south by APEC MP7 (discussed later), on the east by MP5, and on the west by the Main Post Installation boundary (i.e., Highway 21). There are no specific land-use criteria that apply to MP6. Rather, its boundaries are within an area designated to remain an industrial, commercial, and/or residential area (EDAW, 1997).

There are few ecological habitat areas within MP6. The primary ecological feature located within MP6 is Cave Creek and its tributary creek system formed from the headwater seeps located within MP5. Flow direction of Cave Creek and tributaries within MP6 is generally toward the west and off the western boundary of Main Post. Also within MP6 is at least one small wetland/seep area (e.g., to the north of a former gasoline station adjacent to Building 1294 and the former Motor Pool 1200 area). The terrestrial landscape associated with MP6 is largely developed, containing industrial structures, asphalt and/or concrete paving, and maintained lawns. There are isolated areas of mixed coniferous-deciduous tree stands, and scattered areas of open grassland surrounded by forest.

Main Post APEC Number 7. The area designated as APEC MP7 (MP7) is located in the west-central portion of Main Post. The entire area defined by this APEC is within what is now called the Cantonment Area. It is bordered on the north by MP6 and part of Highway 21, on the west by the Main Post boundary, on the east by APEC MP8 (discussed later), and on the south by APECs MP10 and MP11 (both discussed later). MP7 contains some of the headwater creeks and streams of Cane Creek (e.g., Ingram Creek, South Branch Cane Creek, and Remount Creek). There are no specific land-use criteria that apply to MP6. Rather, its boundaries are within an area designated to remain an industrial, commercial, and/or residential area (EDAW, 1997).

MP7 is similar to MP6 in that it contains few viable ecological habitat areas. The primary ecological feature located within MP6 is Cane Creek and its tributary and creek system. Flow direction of Cane Creek and associated tributaries is generally toward the west, off the Main Post Installation. As in MP6, the terrestrial landscape associated with MP6 is largely developed, containing industrial structures, asphalt and/or concrete paving, and maintained lawns. There are isolated areas of mixed coniferous-deciduous tree stands, and scattered areas of open grassland surrounded by forest.

Main Post APEC Number 8. APEC MP8 (MP8) is located in the eastern-central region of Main Post. It is bordered on the north by MP5, on the west by MP7, to the east by APEC MP9 (discussed later), and to the south by APEC MP11 (discussed later). MP8 is within the Cane

Creek watershed along with MP7; however, the landscape feature distinguishing MP8 from MP7 is the mountainous topography and dominant mixed coniferous-deciduous forest. Elevations within MP8 are some of the most varied, ranging from the flat Cantonment region on the eastern portion of the APEC to some of the highest elevations within the portion of the Choccolocco Mountain range within Main Post. The eastern boundary of this APEC is delineated by the main road traversing the summit of the Choccolocco Mountain range within Main Post. Thus, the topography within MP8 is generally sloped down to the west. Bains Gap Road traverses the center of MP8 in an east-to-west orientation. This area is proposed to be maintained as part of a wildlife refuge (EDAW, 1997).

Ecological features within MP8 are almost entirely terrestrial. At these upper elevation, the pine forest predominates. Aquatic habitat is limited to drainage ditches associated with mountain roads, and seeps and creeks that form the headwaters of Cane Creek. These flow in a westerly direction from the Marchetta Hill Orchid Seep and Marchetta Hill Crow Poison Seep areas within MP8 into MP7.

Main Post APEC Number 9. The APEC MP9 (MP9) area is located along the entire eastern boundary of Main Post. It is bounded on the north by MP3, and on the west by MP3, MP8, and APEC MP11 (discussed later). On the east and south, it is bounded by the Main Post Installation boundaries. The area of MP9 is situated entirely on the eastern slope of the Choccolocco Mountain range within Main Post, and therefore the topography within MP9 slopes to the east toward the Choccolocco Corridor.

The ecological habitat within MP9 is almost entirely terrestrial. Terrestrial vegetation consists primarily of mixed coniferous-deciduous forest with a fair number of mountain longleaf pine stands interspersed within the general forest region. Within some of the hills at the lower elevations along the eastern portion of the APEC, there exist headwater creeks associated with the Choccolocco watershed to the east. These flow in a west to east direction off the Main Post Installation boundary. The only special ecological feature within MP9 is Bains Gap Seep.

Main Post APEC Number 10. The area designated as APEC MP10 (MP10) is located along the western boundary of the Main Post Installation. Except for the southern boundary adjacent to APEC MP12 (discussed below), it is bordered almost entirely by MP7 (to the north and east) and the Main Post boundary (to the west). There is a short stretch of MP10 to the southeast that is bounded by APEC MP11 (discussed below). MP10 is situated entirely within a watershed not

associated with Cane Creek within the Main Post Installation boundaries. This APEC is drained by several small creeks that apparently form the headwaters for creeks and streams that flow toward the city of Anniston to the southwest. The most significant feature of this APEC is that is lies almost entirely within the area proposed to be used for the Eastern By-pass Corridor. Although the landscape features include viable terrestrial and aquatic habitat, this planned future use may superceded any risk assessment results indicating potential adverse risk to ecological receptors within this APEC.

The habitat associated with MP10 is predominantly terrestrial forest landscape. A large fraction of the southern portion of MP10 is within the forest area recommended to become part of a wildlife refuge (EDAW, 1997). Aquatic habitat within this APEC consists of small creeks and drainage ditches which flow to the southwest, and Lake Yahoo.

Main Post APEC Number 11. APEC MP11 (MP11) is located in the southern half of the Main Post Installation. It is bounded to the east by MP9, to the south by MP13, to the west by MP7, MP10, and APEC MP12 (discussed later), and to the north by MP8. The western boundary also coincides with the boundary of the proposed Eastern By-pass Corridor (EDAW, 1997). The area lies entirely within the forested area of Main Post, and is designated to become part of the wildlife refuge on Main Post (EDAW, 1997). The other landscape features associated with MP11 are the headwaters of South Branch Cane Creek and the Stanley Hill Chestnut Oak Forest.

The ecology of MP11 is similar to that of MP8, to the north. Terrestrial habitat consists of mixed coniferous-deciduous forest, with pine dominating some of the higher elevation areas to the east. The understory is dominated by moderately dense deciduous shrubs. Open grass areas are found associated with Installation activities such as Ranges and training areas. There are a few buildings and structures associated with a few sites or parcels within MP11. The aquatic habitat within this APEC is associated exclusively with the headwaters and seeps of South Branch Cane Creek. The flow of this creek is to the northwest toward MP7.

Main Post APEC Number 12. The area designated as APEC MP12 (MP12) is located along the southwestern boundary of the Main Post Installation. Except for the presence of the Reynolds Hill Turkey Oak Forest area, there are no special ecological features. As is the case with MP10, the most significant feature of this APEC is that is lies almost entirely within the area proposed to be used for the Eastern By-pass Corridor (EDAW, 1997). Although the

landscape features include viable terrestrial and aquatic habitat, this planned future use may supercede any risk assessment results indicating potential adverse risk to ecological receptors within this APEC.

Main Post APEC Number 13. The last APEC within Main Post is the area designated as APEC MP13 (MP13). This APEC is located along the southern boundary of the Main Post Installation, bounded to the north by MP11 and MP12. Except for the Davis Hill Honeysuckle area and a few stands of mountain longleaf pine, there are no special ecological features in MP13. The western portion of this APEC (approximately the western third, from the Davis Hill Honeysuckle hill on the east to the Main Post Installation boundary on the west) is designated to be part of the Eastern By-pass Corridor (EDAW, 1997).

The ecological habitat within MP13 is almost entirely terrestrial. Terrestrial vegetation consists primarily of mixed coniferous-deciduous forest with only a few isolated mountain longleaf pine stands interspersed within the general forest region. Within some of the hills at the lower elevations along the southern portion of the APEC, there exist headwater creeks associated with the watersheds to the south. These flow in a north to south direction off the southern Main Post Installation boundary. The only special ecological feature within MP13 is the Davis Hill Honeysuckle area.

C.5.2 Choccolocco Corridor Areas of Potential Ecological Concern

Choccolocco Corridor APEC Number 1. The area designated as APEC CC1 (CC1) is comprised of the western most portion of the Choccolocco Corridor. Except for its eastern boundary adjacent to the Choccolocco Creek watershed, it is bounded on all sides by the Choccolocco Corridor boundary line. There are only a few sites or parcels identified within this APEC. The topography is mountainous to the west transitioning to a flatter floodplain to the east. There is one area of CC1 to the north that is used as a dirt bike and/or motor bike trail (Field Reconnaissance notes from the 27-31 July 1998 site reconnaissance). This area was inaccessible, but it is likely to contain areas of disturbed vegetation and non-natural terrestrial features (e.g., jumping mounds, cleared or scarred ground, etc.).

The habitat within CC1 is primarily terrestrial with some aquatic systems interspersed. The region to the west is the eastern slope of the Choccolocco Mountain range transecting Main Post. Thus the forest type is mixed coniferous-deciduous. No mention was made in historical reports

regarding the presence of identified stands of mountain longleaf pine, however, given the proximity to isolated stands within the Main Post section of this mountain range, it is possible that such stands might exist. The aquatic features within CC1 are limited to drainage creeks and streams that form tributaries of Choccolocco Creek.

Choccolocco Corridor APEC Number 2. The APEC CC2 (CC2) is comprised of the Choccolocco Creek floodplain. It is bounded to the east and west by the floodplain boundary (i.e., APECs CC1 and CC3 [discussed later]), and to the north and south by the Choccolocco Corridor boundary line. The topography is a flat floodplain. The habitat within CC2 is a mixture of terrestrial and aquatic represented by the Choccolocco Creek and associated tributaries. The terrestrial vegetation is dominated by grassland and short trees and shrubs. True forest in this APEC is limited to isolated stands of mixed coniferous-deciduous. The aquatic features within CC1 are limited to drainage creeks and streams that form tributaries of Choccolocco Creek.

Choccolocco Corridor APEC Number 3. The area designated as APEC CC3 (CC3) is comprised of the western most portion of the Choccolocco Corridor. It is similar to CC1 in that, except for its western boundary adjacent to the Choccolocco Creek floodplain, it is bounded on all sides by the Choccolocco Corridor boundary line. There are only a few sites or parcels identified within this APEC. The topography is a flatter floodplain area to the west and rolling hills to the east.

The habitat within CC3 is primarily terrestrial with some aquatic systems interspersed. The few stands of forest is composed of mixed coniferous-deciduous trees. The dominant vegetation type is grass and maintained agricultural plots. No mention was made in historical reports regarding the presence of identified stands of mountain longleaf pine. The aquatic features within CC1 are limited to drainage creeks and streams that form tributaries of Choccolocco Creek.

C.5.3 Pelham Range Areas of Potential Ecological Concern

Pelham Range APEC Number 1. The APEC PR1 (PR1) area is situated along the eastern boundary of Pelham Range. It is bounded to the south by APEC PR2 (discussed later) and to the west by APEC PR4 (discussed later). The western boundary is defined by a series of roads stretching from the northern Installation boundary to the southern boundary. This APEC contains a few sites of interest to risk assessors, as well as the initial portion of the Cane Creek Corridor that lies within the Pelham Range property boundaries.

Several cleared areas used as training areas and ranges are present within this APEC, but the predominant ecological features include large grassland and short tree/shrub areas surrounded by stands of mixed coniferous-deciduous forest. The Cane Creek Corridor in PR1 is fed by a number of closely situated tributary creeks to the north of Gate 3 Road. In the southern portion of PR1 exist several small (e.g., several tens of acres) ponds or lakes, and several smaller wetland-type features. Although these were inaccessible during site reconnaissance visits, they are featured on current maps of Pelham Range. In addition, there is a stretch of creek or stream that begins and ends within the APEC. It is isolated from any other stream or creek as surface water. It may flow underground at each terminal point.

Pelham Range APEC Number 2. This APEC PR2 (PR2) is located in the southeastern corner of Pelham Range, south of PR1, and north of APEC PR3 (discussed later). It is separated from PR1 due to the presence of two special ecological features within this area. One is Lloyd's Chapel Swale located along the extreme southeast boundary of Pelham Range, and the other is the northern portion of a large forested area containing mountain longleaf pine. The southern boundary of PR2 is defined by the watershed boundary between the Cane Creek watershed to the north and an unnamed watershed draining to the south. The terrain is predominantly forested mountains and hills with very few open areas. Except for Lloyd's Chapel Swale, there are no aquatic features within this APEC.

Pelham Range APEC Number 3. This APEC PR3 (PR3) is located in the extreme southeastern corner of Pelham Range, south of PR2. It is separated from PR2 based on watershed. However, it shares the important feature of the large forested area containing mountain longleaf pine. The southern boundary of PR2 is defined by the Installation boundary. The terrain is very similar to that of PR2, predominantly forested mountains and hills with very few open areas. There are no aquatic features within this APEC.

Pelham Range APEC Number 4. The area designated as APEC PR4 (PR4) consists of a long area of land located in the central region of Pelham Range stretching from the northern boundary to the southern boundary of the Installation. It is bounded on the east by PR1, and on the west by APEC PR5 and APEC PR6 (both discussed later). Although it is situated within the Cane Creek watershed, it was delineated as a separate APEC due to the presence of two special ecological features within this area. One is Willett Springs, an important wetland habitat with which is associated an important concentration of the endangered Tennessee yellow-eyed grass.

The second is a major tributary creek to Cane Creek flowing in a south to north orientation, and several small lakes or ponds associated with the tributary creek.

The terrestrial habitat is predominantly forested hills with a substantial portion of the land covered by open grassland/short shrub areas. Aquatic features within this APEC are very productive creek and pond system feeding into Cane Creek from the south. These tributary creeks and the section of Cane Creek itself represent potentially viable habitat for a wide range of aquatic species ranging from insects and fish to semi-aquatic birds (e.g., heron) and mammals (e.g., raccoon and mink).

Pelham Range APEC Number 5. APEC PR5 (PR5) is an area located in the north-central portion of Pelham Range bounded on the north by the Installation boundary, on the west and southwest by APEC PR6 (discussed later), and to the southeast by PR4. This area was defined to include a reach of creek that, based on map markings, is not hydrologically connected to Cane Creek through ground surface channels. This creek is oriented in a southwest-northeast direction, and stretches beyond the northern boundary of the Installation. The creek was inaccessible during the July 1998 reconnaissance, therefore, direction of flow is uncertain. If direction of flow is to the south toward Cane Creek, the tributary in question apparently goes subsurface at some point before reaching Cane Creek, and deserves special consideration as a unique ecological habitat area. If, however, the direction of flow is to the north off the Installation property, then the creek belongs to a watershed separate from Cane Creek, in which case it still deserves special consideration as a unique APEC. Terrestrial features within PR5 consist mainly of rolling hills covered by mixed coniferous-deciduous trees and shrubs, and a very few isolated patches open fields and grassland.

Pelham Range APEC Number 6. The area designated as APEC PR6 (PR6) is another large section of land located in the central region of Pelham Range stretching from the northern boundary to the southern boundary of the Installation. It is bounded on the east by PR4 and PR5, and on the west by APEC PR7 and APEC PR8 (both discussed later). Although it also is situated within the Cane Creek watershed, it was delineated as a separate APEC due to the presence of a major tributary creek to Cane Creek flowing in a south to north orientation, and several small lakes or ponds associated with the tributary creek.

The terrestrial habitat is predominantly forested hills with a substantial portion of the land covered by open grassland/short shrub areas. Aquatic features within this APEC are very

productive creek and pond system feeding into Cane Creek from the south. These tributary creeks and the section of Cane Creek itself represent potentially viable habitat for a wide range of aquatic species ranging from insects and fish to semi-aquatic birds (e.g., heron) and mammals (e.g., raccoon and mink).

Pelham Range APEC Number 7. APEC PR7 (PR7) is the area called the Impact Area Barren in several reference documents. It is identified as a special interest area; therefore, it is given its own APEC designation. The area is entirely surrounded by PR6 to the east and APEC PR7 (discussed later) to the west. Its habitat is entirely terrestrial, and consists mainly of a large expanse of open field and short trees.

Pelham Range APEC Number 8. The area designated as APEC PR8 (PR8) is a third large section of land forming the extreme western region of Pelham Range stretching from the northern boundary to the southern boundary of the Installation. It is bounded on the east by PR6 and PR7, and on the west by the Pelham Range boundary line. It too is situated within the Cane Creek watershed, but was delineated as a separate APEC due to the presence of a major tributary creek to Cane Creek flowing in a south to north orientation, and several small lakes or ponds associated with the tributary creek. Also in the extreme southwestern corner of the Installation within PR8 is another special ecological area called Cabin Club Spring.

The terrestrial habitat is predominantly forested hills with a substantial portion of the land covered by open grassland/short shrub areas. Aquatic features within this APEC are very productive creek and pond system feeding into Cane Creek from the south. These tributary creeks and the section of Cane Creek itself represent potentially viable habitat for a wide range of aquatic species ranging from insects and fish to semi-aquatic birds (e.g., heron) and mammals (e.g., raccoon and mink).

C.6.0 References

EDAW, Inc., (EDAW), 1997, ***Fort McClellan Comprehensive Reuse Plan - Implementation Strategy***, Fort McClellan Reuse and Redevelopment Authority of Alabama, November.